

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
CITY OF BOSTON, MASSACHUSETTS	)	File Nos. 0002859368, 0002859394,
	)	0002859398, 0002859566, 0002859631,
Request for Waiver Pursuant to Section 337(c) of	)	0002859634, 0002859674, 0002859678,
the Communications Act of 1934, as amended,	)	0002859681, 0002859693, 0002859696,
and Section 1.925 of the Commission's Rules	)	0002859703, 0002859707, 0002859713,
	)	0002859716, 0002859739, 0002859744, and
	)	0002859754

**ORDER**

**Adopted: October 11, 2007**

**Released: October 12, 2007**

By the Deputy Chief, Policy Division, Public Safety and Homeland Security Bureau:

**I. INTRODUCTION**

1. The City of Boston, Massachusetts (Boston) filed eighteen license applications and a rule waiver request<sup>1</sup> on behalf of the Metro-Boston Homeland Security Region (MBHSR),<sup>2</sup> in order to obtain the exclusive use of unassigned Part 22<sup>3</sup> paging control spectrum in the 470-512 MHz band to operate on seventy-two narrowband (11.25 kHz bandwidth) frequencies for public safety communications. For the reasons stated below and to the extent indicated, we grant Boston's waiver request and the associated applications.

<sup>1</sup> See File Nos. 0002859368, 0002859398, 0002859566, 0002859631, 0002859678, 0002859693, 0002859707, 0002859713, 0002859716, 0002859739, and 0002859754 (filed Dec. 22, 2006, amended May 10, 2007); File Nos. 0002859634, 0002859681, 0002859674, and 0002859703 (filed Dec. 22, 2006, amended Jan. 8, 2007 and May 10, 2007); File No. 0002859394 (filed Dec. 22, 2006, amended Jan. 11, 2007 and May 10, 2007); File Nos. 0002859696 and 0002859744 (filed Dec. 22, 2006, amended Jan. 8, 2007, Feb. 6, 2006, Feb. 8, 2007, and May 10, 2007); and accompanying Waiver Request (Waiver Request), Analysis of Frequency Availability Prepared for the Metro-Boston Homeland Security Region by Vogel Consulting Group, Inc., dated December, 2006 (Vogel Report), and Amendment to Technical Analysis, dated May 10, 2007 (Technical Amendment).

<sup>2</sup> The MBHSR consists of the following nine local jurisdictions in Massachusetts: Boston, Brookline, Cambridge, Chelsea, Everett, Quincy, Revere, Somerville, and Winthrop. See Waiver Request at 1.

<sup>3</sup> 47 C.F.R. Part 22.

## II. BACKGROUND

2. According to its waiver petition, Boston and other MBHSR jurisdictions have undertaken various initiatives to strengthen region-wide emergency preparedness, including associated public safety communications capabilities.<sup>4</sup> Per the latter, Boston and its MBHSR jurisdictions seek to provide a unified and interoperable public safety communications radio system that integrates current spectrum resources into a region-wide network.<sup>5</sup> Obtaining exclusive use of the seventy-two unassigned Part 22 paging channels is integral to these efforts, according to Boston, because no other spectrum is immediately available to integrate existing VHF, UHF, and 800 MHz operations region-wide, increase the communications capacity of various participating agencies, and broaden the number of agencies able to participate in interoperable communications.<sup>6</sup>

3. Because the Commission has not designated Part 22 frequencies for public safety use, Boston requests a waiver of Sections 22.7, 22.501, 22.621, 22.651, and 90.311 of the Commission's rules<sup>7</sup> pursuant to Section 337(c) of the Communications Act of 1934, as amended (the Act)<sup>8</sup> or, in the alternative, rule Section 1.925.<sup>9</sup> We have determined that Boston requires a waiver of Sections 22.621 and 90.311,<sup>10</sup> as well as Section 20.9(a)(6) of the Commission's rules.<sup>11</sup> On March 7, 2007, the Public Safety and Homeland Security Bureau placed the waiver request and associated applications on public notice.<sup>12</sup> Thirteen comments were filed in support of Boston's request,<sup>13</sup> and no comments were filed in opposition. Boston filed the sole reply comment.<sup>14</sup>

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<sup>4</sup> Waiver Request at 2-3. According to its petition, Boston and the other MBHSR jurisdictions have initiated steps to "leverage" all state, local and regional resources so that the necessary personnel and equipment can respond to emergencies in an expeditious manner as part of a larger regional "Urban Area Security Initiative" (UASI). The UASI is a grant program, administered by the U. S. Department of Homeland Security, that addresses the unique planning, equipment, training, and exercise needs of high threat, high density urban areas, and assisting these areas in building an enhanced and sustainable capacity to prevent, protect against, respond to, and recover from acts of terrorism. See <http://www.dhs.gov/xgovt/grants/index.shtm>.

<sup>5</sup> Waiver Request at 5.

<sup>6</sup> *Id.* at 6-7.

<sup>7</sup> *Id.* at 11. See 47 C.F.R. §§ 22.7, 22.501, 22.621, 22.651, 90.311.

<sup>8</sup> See 47 U.S.C. § 337(c).

<sup>9</sup> 47 C.F.R. § 1.925.

<sup>10</sup> Section 22.621 allocates the requested frequencies for point-to-multipoint transmitters that support transmitters that provide public mobile service. Section 90.311 excludes the requested frequencies from assignment to private land mobile radio applicants.

<sup>11</sup> 47 C.F.R. § 20.9(a)(6). Section 20.9(a)(6) states that Part 22 paging and radiotelephone services shall be treated as commercial mobile radio services.

<sup>12</sup> See Public Safety and Homeland Security Bureau Seeks Comment on Request for Waiver Filed by the City of Boston, Massachusetts to Operate a Public Safety Radio System Utilizing UHF Part 22 Paging Control Frequencies, *Public Notice*, 22 FCC Rcd 4628 (PSHSB 2007).

<sup>13</sup> See Letters to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission, from Thomas F. Gorman, Jr., Director, Quincy Emergency Management (filed Mar. 22, 2007); H. David Troup Jr., Director, Telecommunications, Boston Police Department (filed Mar. 30, 2007); Brendan Kerney, Superintendent, Field Support, City of Boston Emergency Medical Services (filed Mar. 30, 2007); Chief Leo A. Saco, Chairman, Greater Boston Police Council (filed Mar. 30, 2007); Sal Mazzola, Jr., CIS Vice-Chair, City of Revere, Massachusetts Fire Department (filed Mar. 30, 2007); John F. Hanlon, Mayor, City of Everett (filed Apr. 4, 2007); Steven A. Mazzie, (continued....)

### III. DISCUSSION

4. Section 337(c) of the Act provides that, in connection with an application by an “entity seeking to provide public safety service,” the Commission “shall waive any requirement of this Act or its regulations implementing this Act (other than its regulations regarding harmful interference) to the extent necessary to permit the use of unassigned frequencies for the provision of public safety services ...” if the Commission finds that:

- no other spectrum allocated to public safety services is immediately available to satisfy the requested public safety service use;
- the requested use is technically feasible without causing harmful interference to other spectrum users entitled to protection from such interference under the Commission’s regulations;
- the use of the unassigned frequency for the provision of public safety services is consistent with other allocations for the provision of such services in the geographic area for which the application is made;
- the unassigned frequency was allocated for its present use not less than 2 years prior to the date on which the application is granted; and
- granting such application is consistent with the public interest.<sup>15</sup>

5. When considering waiver requests filed pursuant to Section 337(c) of the Act, we first determine whether the applicant is an “entity seeking to provide public safety services.”<sup>16</sup> The Act defines public safety services as “services – (A) the sole or principle purpose of which is to protect the safety of life, health, or property; (B) that are provided – (i) by State or local government entities; or (ii) by non-governmental organizations that are authorized by a governmental entity whose primary mission is the provision of such services; and (C) that are not made commercially available to the public by the provider.”<sup>17</sup> According to the record before us, Boston and the other MBHSR jurisdictions consist of local governments that seek to develop a region-wide interoperable wireless communications capability to enhance incident command communications for local public safety agencies.<sup>18</sup> Accordingly, we conclude that Boston and the other MBHSR jurisdictions are each an “entity seeking to provide public safety  
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Chief of Police, Everett Police Department (filed Apr. 4, 2007); Officer Scott Wilder, Director of Technology & Communications, Brookline Police Department (filed Apr. 4, 2007); Thomas F. Gorman, Jr., Director, Quincy Emergency Management (dated Mar. 30, 2007, filed Apr. 4, 2007); Thomas F. Gorman, Jr., Director, Quincy Emergency Management (dated Apr. 3, 2007, filed Apr. 4, 2007); Gerald R. Reardon, Chief, City of Cambridge Fire Department (filed Apr. 4, 2007); and John F. Nash, Chairman, MetroFire (filed Apr. 4, 2007). An additional comment supporting Boston’s request was filed after the comment due date. *See* Letter to Marlene H. Dortch, Secretary, Federal Communications Commission, from Herbert C. Fothergill, Jr., Chief, City of Chelsea Fire Department (filed Apr. 10, 2007). We accept this late-filed comment because we conclude that its inclusion in the record of this proceeding serves the public interest.

<sup>14</sup> *See* Reply Comments of the City of Boston (filed Apr. 24, 2007).

<sup>15</sup> 47 U.S.C. § 337(c).

<sup>16</sup> *See* 47 U.S.C. § 337(f).

<sup>17</sup> *Id.*

<sup>18</sup> Waiver Request at 1-2.

services.” Next, we consider whether Boston’s petition satisfies the specific showing requirements mandated by Section 337(c) of the Act.

6. *No other spectrum allocated to public safety services is immediately available to satisfy the requested public safety service use.* Boston contends that adequate spectrum is not otherwise available to allow MBHSR public safety agencies to meet their public safety communications requirements.<sup>19</sup> In support of its waiver petition, Boston submitted the “Vogel Report,” which surveyed VHF, UHF, 700 MHz, and 800 MHz public safety spectrum in the Boston area and concludes that the immediate availability of exclusive use channels in the bands surveyed is not sufficient to satisfy MBHSR requirements.<sup>20</sup> According to the Vogel Report:

- There is only one available frequency in the 150-160 MHz Band that satisfies MBHSR requirements, and no available frequencies in the 450-454 and 460-466 MHz Bands;<sup>21</sup>
- The 470-473 MHz and 482-485 MHz Bands contain 6.25 kHz bandwidth channels, but these frequencies are not available from a practical standpoint because no manufacturer provides high power equipment that can utilize this narrow bandwidth in this frequency range. The report further states these channels cannot be coordinated due to the close proximity of existing co-channel users. 12.5 kHz bandwidth channels are considered unavailable because they fail the “TIA 8.8 test;”<sup>22</sup>
- The 764-776 and 794-806 MHz Public Safety Bands will not be available until February 17, 2009, the date by which broadcasters are required to vacate that spectrum.<sup>23</sup> The immediate use of this band in the Boston area is, therefore, prohibited by existing television broadcast stations;<sup>24</sup>

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<sup>19</sup> *Id.* at 12.

<sup>20</sup> Vogel Report at 5.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.* The “TIA 8.8 test” refers to the Land Mobile Communications Council’s frequency selection protocols for adjacent channel interference situations in the 470-512 MHz Band. In 1997, the LMCC announced these protocols, based on the interference criteria and radio propagation and coverage protocols embodied in the Telecommunications Industry Association (TIA) Working Group 8.8 document. *See* Frequency Selection Procedures—12.5 kHz Offset Assignments at 470-512 MHz, attached to Letter dated September 10, 1997, from Larry A. Miller, President, Land Mobile Communications Council, to Daniel B. Phythyon, Chief, Wireless Telecommunications Bureau. An applicant for a 12.5 kHz bandwidth system fails the test when a radio propagation simulation predicts that the applicant would degrade by more than five percent the service area reliability of 25 kHz bandwidth, incumbent stations that are adjacent channel by 12.5 kHz. An applicant also fails the test if a simulation predicts that the applicant would receive more than five percent degradation in service area reliability from adjacent channel, incumbent stations. In such cases, the application should not be coordinated.

<sup>23</sup> Vogel Report at 5.

<sup>24</sup> *Id.* at 5-6, Table 1. The Commission has since established new rules for the 700 MHz Band, including a shift in the public safety allocation so that it is now located at 763-775/793-805 MHz. *See* Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through (continued....)

- The 806-821 and 851-866 MHz Bands do not have unassigned channels;<sup>25</sup>
- The 821-824 and 866-869 MHz Bands have eighteen channels available in the Boston urbanized area, according to a survey of the National Public Safety Planning Advisory Committee.<sup>26</sup> The Vogel Report states that use of two of these channels for interoperability with agencies operating in the 800 MHz Band is contemplated.<sup>27</sup> The Vogel Report states that the remaining channels are insufficient to meet the MBHSR requirements.<sup>28</sup>

The Vogel Report's spectrum analysis is supported by a letter from the Association of Public-Safety Communications Officials-International, Inc. (APCO), an FCC-certified public safety frequency coordinator, which states that no frequencies are immediately available to satisfy requested UASI needs.<sup>29</sup>

7. The Commission has accepted similar documentation in other 337 waiver cases as sufficient evidence of the unavailability of other public safety spectrum.<sup>30</sup> With respect to the public safety narrowband spectrum allocated in the 700 MHz band, we note that the New England Regional Plan (Region 19), which includes Massachusetts, has been approved.<sup>31</sup> We conclude, however, that 700 MHz narrowband spectrum is not "immediately available" to MBHSR public safety agencies due to the presence of television stations on Channels 60-69 in or near the Boston Metropolitan area.<sup>32</sup> Based on our analysis of the information submitted and given the quantity and type of channels sought here, we conclude that MBHSR has demonstrated that no other public safety spectrum is immediately available in the area to satisfy the requested use.<sup>33</sup>

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the Year 2010, PS Docket No. 06-229, WT Docket No. 96-86, *Second Report and Order*, 22 FCC Rcd 15289, 15419 ¶ 329, 15426 ¶ 351 (2007) (*700 MHz Second Report and Order*).

<sup>25</sup> Vogel Report at 6.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> See *id.*, Appendix B, Letter dated September 8, 2006 from James A. Warakois, Frequency Advisor, APCO International, to Mr. H. David Troup, Jr., Director of Telecommunications, City of Boston, Police Department.

<sup>30</sup> See, e.g., Nassau County Police Department, *Memorandum Opinion and Order*, 17 FCC Rcd 14258 (WTB PSCID 2002).

<sup>31</sup> Wireless Telecommunications Bureau Approves Region 19 (New England) 700 MHz Regional Plan, *Public Notice*, 20 FCC Rcd 14375 (WTB PSCID 2005). We note that Region 19 must amend its plan based on the Commission's recent decision in PS Docket No. 06-229. See *700 MHz Second Report and Order* at 15424-5 ¶ 346.

<sup>32</sup> See 47 C.F.R. § 73.606(b) (listing television channel allotments). For example, Channel 64 (770-776 MHz) is licensed in Providence, RI (WNAC) approximately 57 kilometers from Boston. See also the Region 19 Plan which states "most areas of New England will be precluded from immediately implementing systems due to the protection requirements of existing TV stations." Regional 19 Plan, Part 1, Section 9 at pg 3.

<sup>33</sup> The Commission's interpretation of Section 337(c) of the Act "requires that there be no unassigned public safety spectrum, or not enough for the proposed public safety use, in any band in the geographic area in which the Section 337 applicant seeks to provide public safety services." Implementation of Sections 309(j) and 337 of the Communications Act of 1934, WT Docket No. 99-87, *Report and Order and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 22709, 22768 ¶ 132 (2000).

8. *The requested use is technically feasible without causing harmful interference to other spectrum users entitled to protection from such interference under the Commission's regulations.* The proposed use of frequencies is in the 470-476 and 482-488 MHz Bands, which are allocated on a geographically-shared basis with television broadcast stations.<sup>34</sup> In the Boston area, the Commission regulates the requested frequencies under Part 22 of its rules.<sup>35</sup> Specifically, the Commission has designated the frequencies requested herein for point-to-multipoint use to support transmitters that provide public mobile service, *i.e.*, paging control.<sup>36</sup> Here, Boston has determined that there are no co-channel Part 22 or Part 90 licensees operating on the requested frequencies,<sup>37</sup> and there are no adjacent channel licensees that would have overlapping bandwidths with the proposed operations.<sup>38</sup> Boston also notes that it meets the spacing requirements specified in the rules for co-channel and adjacent channel TV stations.<sup>39</sup> We agree with this analysis and therefore find that the proposed operation on the requested Part 22 frequencies is technically feasible and would not cause harmful interference to protected spectrum users.

9. *The use of the unassigned frequencies for the provision of public safety services is consistent with other allocations for the provision of such services in the geographic area for which an application is made.* Boston states, correctly, that the proposal encompasses a frequency band in which land mobile operations are authorized.<sup>40</sup> Moreover, several municipalities within the Boston urbanized area operate public safety radio communications in the 470-512 MHz Band, as well as in the adjacent 450-470 MHz Band.<sup>41</sup> We therefore conclude that public safety use of the unassigned Part 22 frequencies is consistent with public safety allocations in the relevant geographic area.

10. *The unassigned frequencies have been allocated for its present use not less than two years.* Boston notes, correctly, that the allocation of frequencies for paging control use became effective on January 1, 1995.<sup>42</sup> Thus, these frequencies have been allocated for their present use for more than two years.

11. *Granting the applications is consistent with the public interest.* The evidence indicates that Boston and the other MBHSR jurisdictions and regional public safety agencies face a critical demand to modernize the communications capability of law enforcement, fire, emergency medical, and other public safety agencies throughout the area, and that communications interoperability is a key component of this demand.<sup>43</sup> Moreover, the applications are part of a broader public safety initiative to confront the

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<sup>34</sup> Frequencies in the 470-512 MHz band, normally assigned to UHF Television channels 14 through 20, were made available for land mobile radio use in eleven cities in the early 1970s in the "UHF-TV Sharing" proceeding. *See* Land Mobile Use of TV Channels 14 through 20, Docket No. 18261, *Report and Order*, 23 FCC 2d 325 (1970); 47 C.F.R. § 90.301.

<sup>35</sup> 47 C.F.R. § 22.1 *et. seq.*

<sup>36</sup> *See* 47 C.F.R. §§ 22.621, 22.627.

<sup>37</sup> Vogel Report at 13.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> Waiver Request at 14.

<sup>41</sup> *See* Vogel Report at 9-10, Figures 1 - 2.

<sup>42</sup> Waiver Request at 14, *citing* Revision of Part 22 of the Commission's Rules Governing the Public Mobile Services, *Report and Order*, CC Docket 92-115, 9 FCC Rcd 6513 (1994).

<sup>43</sup> *See* Waiver Request at 14.



need to improve security and overall preparedness to prevent, respond to, and mitigate terrorist incidents.<sup>44</sup> Given the documented deficiencies in the present state of interoperability capability and operational communications in the region, we agree with Boston that a grant would promote broad-based, region-wide communications, and result in tangible enhancements to the public's health and safety.<sup>45</sup> We note that Boston's request has the support of several public safety agencies and jurisdictions within the MBHSR.<sup>46</sup> Based on the record before us, we believe that the public interest would be promoted by affording Boston's public safety community the necessary spectrum to enable it to protect the lives and property in its care. Section 1 of the Act states that one of the Commission's over-arching purposes is to "promot[e] safety of life and property through the use of ... radio communication."<sup>47</sup> We find it significant that grant of the instant request would promote interoperability capability within the public safety community in the Boston urbanized area.<sup>48</sup> Accordingly, we conclude that a decision to grant the instant Boston applications and the Waiver Request is consistent with the public interest.

#### IV. CONCLUSION

12. Based on the record before us, we conclude that Boston's request for waiver of the Commission's rules and authorization to use Part 22 paging control frequencies to operate a public safety communications system satisfies the criteria set forth under Section 337(c) of the Act. We, therefore, grant the request to the extent noted herein.<sup>49</sup> We take this opportunity to notify Boston that it shall operate in compliance with all applicable Part 22 technical rules, aside from the rules that we waive herein.<sup>50</sup>

#### V. ORDERING CLAUSES

13. Accordingly, IT IS ORDERED that, pursuant to Sections 4(i) and 337(c) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 337(c), the Applications and Waiver Request filed on behalf of the Metro-Boston Homeland Security Region on December 22, 2006, as amended, regarding File Nos. 0002859368, 0002859394, 0002859398, 0002859566, 0002859631, 0002859634, 0002859674, 0002859678, 0002859681, 0002859693, 0002859696, 0002859703, 0002859707, 0002859713, 0002859716, 0002859739, 0002859744, and 0002859754 ARE GRANTED, and the same file numbers SHALL BE PROCESSED consistent with this *Order* and the Commission's rules.

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<sup>44</sup> *Id.*

<sup>45</sup> *Id.* at 14-15.

<sup>46</sup> *See supra* note 133.

<sup>47</sup> 47 U.S.C. § 151.

<sup>48</sup> *See supra* para. 2.

<sup>49</sup> In view of our conclusion that a waiver is warranted under Section 337(c) of the Act, we need not address whether Boston's waiver request should be granted under Section 1.925(b)(3) of the rules. To eliminate possible confusion concerning interference protection rights and exclusivity between Boston and any future public safety applicants for 470-512 MHz Part 22 spectrum in the Boston urbanized area, standard land mobile frequency coordination procedures and Part 90 rules shall apply.

<sup>50</sup> *See supra* notes 10 and 11.

14. This action is taken under delegated authority pursuant to Sections 0.191 and 0.392 of the Commission's rules, 47 C.F.R. §§ 0.191, 0.392.

FEDERAL COMMUNICATIONS COMMISSION

Thomas J. Beers  
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